Lateral Subluxation of the Fifth Carpometacarpal Joint

Takuma Wakasugi¹ Ritsuro Shirasaka¹ Koji Fujita²

¹Department of Orthopaedic Surgery, Tsuchiura Kyodo Hospital, Ibaraki, Japan

²Department of Orthopaedic Surgery, Tokyo Medical and Dental University, Tokyo, Japan

Address for correspondence Takuma Wakasugi, MD, Department of Orthopedic Surgery, Tsuchiura Kyodo Hospital, 4-1-1 Ohtsuno, Tsuchiura, Ibaraki 300-0028, Japan (e-mail: waka82003@yahoo.co.jp).

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A 44-year-old man sustained fall from a standing height injuring his left palm with severe tenderness over the hypoth- enar eminence. A plain radiograph showed diastasis of the fourth and fifth metacarpal bases, confirming lateral subluxa- tion of the fifth carpometacarpal (CMC) joint. An open reduc- tion and internal fixation was planned through dorsal approach. The interval between the fourth and fifth metacar- pal bases had hematoma. The hematoma was evacuated with

ease reduction of fifth CMC joint but found very unstable. Hence fifth CMC joint was stabilized with two 1.2-mm Kirschner wires (K-wires) inserted from ulnar aspect of the fifth metacarpal base. The avulsed intermetacarpal ligament on the dorsum of fifth metacarpal base was reinserted using a 1.3-mm suture anchor. K-wires were removed at postoperative 4 weeks and the patient was started on regular hand therapy. At 1-year follow-up, the patient was pain-free with 93% grip

Fig. 1 Initial view of the injured hand, preoperative X-ray, postoperative X-ray, and postoperative hand functions.

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strength and 6.8 Quick DASH score. The follow-up radiograph showed good congruence at the fifth CMC joint.

Howard and Edmunds¹ have described a lateral dislocation of the second and third CMC joints in a 20-year-old man who suffered a hyperextension injury to the right wrist while playing rugby. However, that report did not mention the mechanism of the injury. Saleemi and Iqbal² reported a case of ulnar dislocation of fifth CMC joint in a patient who sustained injury from a fall onto his outstretched hand, with no description about the mechanism of injury. Kumar³ reported a case of lateral dislocation of the second and third CMC joints in a motor cycle accident. He mentioned two possible mechanisms of injury: “carpal movement” and “metacarpal movement” theories.

“Metacarpal movement” theory causes motorcycle handlebar to push the head of the second metacarpal backward and in the ulnar direction in such that the handle acted as a fulcrum, dislocating the metacarpal base in radial direction. Similarly, our patient fell onto an outstretched hand and a scratch was noted on the ulnar aspect of the palm. Direct force applied to the fifth metacarpal head in the radial direction could cause the metacarpal base to dislocate in the ulnar direction (► **Fig. 1**).

We describe an interesting report of lateral subluxation of the fifth CMC joint caused by “metacarpal movement theory.” The joint was very unstable and reduced by K-wires along with the intermetacarpal ligament repair. The patient had an excellent functional outcome at postoperative 1 year. Clinical suspicion and the unique mechanism of such injury need special attention and treatment protocols.

Conflict of Interest

None.

References

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